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ABSTRACT

An external evaluation of the Torrance (California) Unified School District's transitional bilingual education program for limited-English-speaking Chinese, Japanese, and Korean middle school students is reported. The project focused on four areas including: instruction; staff development, materials, and parent involvement and education. An executive summary gives an overview of the program and evaluation findings. The first section of the report describes the program evaluation plan and the second section gives the evaluator's opinion of its elements. The third and most substantial section reports, for each of the four evaluation areas, specific student and activity objectives and an assessment of their achievement. Results for each school are reported separately in many cases. Specific recommendations are also made in this section. The final section offers brief suggestions for possible improvements in the evaluation plan and in the program itself. Examples of student work and instructional materials are appended, some in Japanese and Korean. The evaluation found that: all but one of the program objectives were achieved in 1989-90; forcasting for some ojbectives was extremely accurate; considerable variation occurred from school to school; and the project improved from the first to the second year. Specific program strengths were found in administrative, instructional, and support areas. (MSE)

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SECOND EVALUATION REPORT (1989-1990)

BRIDGING THE GAP: A SHELTERED APPROACH TO LANGUAGE ACQUISITION AND ACADEMIC SUCCESS

in

Torrance Unified School District

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SECOND EVALUATION REPORT
(1989-1990)

BRIDGING THE GAP: A SHELTERED APPROACH TO LANGUAGE ACQUISITION AND ACADEMIC SUCCESS

(A Chinese, Japanese, and Korean Transitional Bilingual Program Funded Under Title VII of the Elementary and Secondary Education Act)

EXECUTIVE SUMMARY

This Evaluation Report describes the achievements made during the second year of a three-year transitional bilingual program for Chinese, Japanese, and Korean middle school students in the Torrance Unified School District. The project focused on the four goal areas of: student instruction, staff development, materials, and parent involvement and education.

The district again asked the Los Angeles County Office of Education to provide an external evaluation of the project. At each of the district's six middle schools, the external county evaluator sampled: Limited English Proficient (LEP) students from each of the three primary language groups (Chinese, Japanese, and Korean); each of the three project identified curriculum areas (ESL, social studies, and science); and each of the project's three grade levels (sixth, seventh, and eighth). Because of the evaluator's sampling plan (See Table 3 on page 4), the data gathered are believed to be representative. Emerging from the data was a clear picture of how the project surrounded the LEP project students and attempted to assist them toward fluency.

This was the first year in which student standardized test score gains were available in reading, language arts, social studies, and science. In the spring semester of 1989, project students took their pretests. They took their posttests a year later in the spring semester of 1990. Test score gains from the first year to the second were, therefore, not available until the end of the project's second year. At that time, it was clear that the Title VII grant proposal's test score objectives had provided an extremely accurate estimate of the future test score performance levels of project students.

A remarkable twenty-two (22) of a total of twenty-three (23) Evaluation Plan Objectives were attained during the 1989-1990 school year. As noted above, this "Better than 95.7% attainment level" was reached in spite of the fact that many objectives called for student test score gains that were estimated two years earlier in the grant proposal--without the benefit of baseline information.

The grant writers were extremely accurate in their forecasting for four objectives. They estimated that 75% of project students would show positive percentile rank gain scores on the reading subtest of the Comprehensive Test of Basic Skills (CTBS); 80% actually did. They estimated that 80% of project students would have gain scores of at least six months in social studies (CTBS); 81% actually did. They estimated that 80% would have gain scores of at least six months in science (CTBS); 84% actually did. Finally, they estimated that 75% of project students would show positive percentile rank gain scores in language arts (CTBS); 82% actually did. This level of forecasting accuracy is extraordinary.

Other achievements during the year included the following:

- Project students were identified quickly and were placed in the "appropriate program";
- Teachers and instructional assistants provided needed assistance and kept records of student progress;
- A system was in place to collect information on changes in the rate of student grade retention, dropout, absenteeism, placement in special education classes, and placement in a program for gifted and talented;
- Cultural events took place and involved project students from each of the three cultures;
- More than twelve percent (12.8%) of project students were redesignated as Fluent English Proficient (FEP);
- All redesignated FEP students still in the district's schools were experiencing satisfactory academic progress;
- Teachers and instructional assistants were inserviced;
- Curricula were modified; and

- Parents of project students were asked if they were informed of various school activities.

While the project as a whole was very strong, there was variation from school to school, and sometimes one school's figures were much lower than the others. For example, there was a wide range in the percentage of parents who answered "Yes" to the question, "Were you informed of the following school activities during the school year?" Overall (for all seven school activities listed on the questionnaire), 80% of parents at Calle Mayor Middle School answered "Yes," whereas only 53% of parents at Magruder did (See Table 14 on Page 30). Whereas, 82% of students in all six schools combined showed positive percentile rank gain scores in language arts, the figure at Casimir was 56% (of only 9) (See Table 5 on Page 7). And, whereas 81% of students in all six schools combined showed gain scores of six months or more in social studies, the figure at Magruder was 56% (of only 9). (See Table 7 on Page 9.) If only two more students at Casimir and Magruder had scored as well as expected, the percentages for these schools would have been nearly the same as the percentages for the other schools. Finally, whereas 80% of students in all six schools felt "good" or "very good" about the cultural event(s) that reflected their heritage, the figure at Casimir was 51% (See Table 10 on Page 18).

There were indications that the project improved from the first to the second year. At the end of the first year, there were three objectives that were judged to be "unattained," compared with only one at the end of the second year. At the end of the first year, only 56% of 182 students answered "good" or "very good" to the self-esteem question, "How do you feel about the cultural event that reflects your heritage?" By the end of the second year, this figure had risen to 80% of 225. (Although numbers for Casimir did not improve, they were 54% in the first year and 51% in the second year.) (See Table 11 on Page 19).

In conclusion, despite the fact that fewer topics were translated than planned (the one objective that went "unattained"), and attainment levels on a few objectives were lower than hoped at a few schools, the project continued to be implemented as described in the grant and was found to be operating at an extremely high (95%) level of performance. A student who earned a "95%" correct score on an assignment would likely receive a grade of at least an "A." This program did well during its first year. It did even better during its second.

SECOND EVALUATION REPORT
(1989-1990)

BRIDGING THE GAP: A SHELTERED APPROACH TO LANGUAGE ACQUISITION AND ACADEMIC SUCCESS

(A Chinese, Japanese, and Korean Transitional Bilingual Program Funded Under Title VII of the Elementary and Secondary Education Act)

in

Torrance Unified School District
Torrance, California

Prepared by:

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November 1990

Section 1

The Program Evaluation Plan

The Title VII grant received by Torrance from the Office of Bilingual Education and Minority Language Affairs of the U.S. Department of Education was for a term of three academic years: 1988-1989, 1989-1990, and 1990-1991. This year's report is concerned with achievements during the second year of the three-year project.

The original program evaluation plan--which was based closely on the grant application--was only slightly changed from the project's first year of operation to the second. For the first year, of course, project personnel had no baseline data to review before writing the objectives so only rough estimates could be made. For the second year of the project (1989-1990), baseline data did exist and project personnel at the six middle school sites appropriately used that information to revise certain objectives. For example, at some schools estimated percentages of students or parents expected to reach certain levels of attainment were revised on one or more of three objectives: Student Objective 1.4, Student Objective 1.5, and Activity Objective A.4.2. These dealt with: the percentage of project students who demonstrated "positive self-esteem"; the percentage of project students who became redesignated as "Fluent English Speaking" (FEP); and the percentage of project students' parents who were aware of "school activities directed toward parent education."

In each case, the activities of project personnel were also appropriately adjusted. These revisions resulted in situations in which there was a better match between the way the objective was written and what was reasonable to expect based on actual experience. In addition, care was taken to see to it that revised objectives continued to represent high quality.

Before proceeding to Sections 2 and 3 of this evaluation report, the evaluator wishes to thank Mrs. Kikuko Nishi, the middle school Title VII Project coordinator, and the following selected school site personnel for their cooperation and assistance, without which this second middle school bilingual program evaluation report would have been difficult.

TABLE 1

Selected Bilingual Project Personnel at Each School

SCHOOL	PRINCIPAL	ASSISTANT PRINCIPAL	ESL TEACHER(S)
Calle Mayor	Carol Riley	Pat Tierney	Nobuko Wakamoto
Casimir	Richard Leibovitz	Steve Saito	Dean Asbury
Hull	Bill Tokubo	Kathy Enloe	Don McGaughey
Lynn	Rick Long	Joseph Zeiler	Marlene Shlens Kay Furey
Madrona	Cecil Paschall	Diana Murray	Vicki Alvarez
Magruder	Sid Morrison	Ken Di Noto	Joyce Hallgren

Note: "ESL" stands for "English as a Second Language."
Names of "sheltered" classroom teachers and instructional aides are not shown here.

The school site personnel whose names appear in Table 1 above were also instrumental in the improvement of the evaluation plan for the second project year.

Appreciation also goes to Merlyn Madrigal and Donna Smith for their word processing work, and to Steve Yamarone for his assistance in statistical analysis. In addition, Dr. Alice Healy-Sesno, consultant-in-charge, Division of Educational Support Services in the Los Angeles County Office of Education, coordinated delivery of county evaluation services to the Torrance Unified School District.

Section 2

Evaluator's Opinion Regarding The Program Evaluation Plan Elements

The evaluator agrees with the proposed evaluation instruments, data collection, data analysis, and data presentation procedures described in the Program Management and Evaluation Plan, as revised, for the second year of program operation, 1989-1990.

Section 3

Results of the Evaluator's On-Site Visits, Data Gathering, and Analyses

The program evaluator made on-site visits to the district's Title VII project schools on the dates shown below in Table 2.

TABLE 2

Los Angeles County Evaluator's Title VII On-Site Visits

	DATES VISITED	
SITE	EVALUATION PLANNING	ACTUAL DATA GATHERING
District Title VII Office	September 13, 1989 October 3 and 25, 1989 December 13, 1989	July 13 & 26, 1990
Calle Mayor	February 7, 1990	May 8, 1990
Casimir	February 6, 1990	April 18, 1990
Hull	February 8, 1990	April 23, 1990
Lynn	February 6, 1990	May 17, 1990
Madrona	February 23, 1990	May 1, 1990
Magruder	February 7, 1990	April 19, 1990

During the on-site visits noted in Table 2, the evaluator conducted structured and unstructured interviews, reviewed documents and other records, and observed English as a Second Language (ESL) teachers, and regular classroom teachers, as well as bilingual instructional assistants (IAs). The district Title VII Project coordinator/bilingual resource teacher accompanied the evaluator on each on-site school visit, including a series of preliminary "evaluation plan review" school visits that occurred before those noted in Table 2.

During official on-site visits at each school, the evaluator first interviewed the principal, assistant principal, and ESL teacher, reviewed documents, and then described his proposed project sampling method. Since the project focused on Chinese, Japanese, and Korean Limited English Proficient (LEP) students, the sampling plan called for following at each school at least one Chinese LEP student, one Japanese LEP student, and one Korean LEP student. Since the project focused on the three curriculum areas of English as a Second Language (ESL), social studies, and science, the sampling plan called for following at least one LEP project student in each of those three curriculum areas at each school.

Finally, since the project focused on LEP students in the district's six middle schools (grades 6, 7, & 8), the sampling plan called for following at each school at least one LEP student in the sixth grade, one LEP student in the seventh grade, and one LEP student in the eighth grade.

Through this procedure, the evaluator sought to draw a sample from: each of the three primary language groups (Chinese, Japanese, and Korean); each of the three project identified curriculum areas (ESL, social studies, and science); and each of the three grade levels (sixth, seventh, and eighth) at each school. The evaluator's actual sample is shown below in Table 3.

TABLE 3

External Evaluator's Actual Project Student Sample

		Grade Levels and Curriculum Areas								
		6			7			8		
Project School	Primary Language	ESL	Social Studies	Science	ESL	Social Studies	Science	ESL	Social Studies	Science
	Chinese							X		
	Japanese					X				
Calle Mayor	*Korean*			X						
	Chinese	X								
	Japanese									X
Casimir	*Korean*					X				
	Chinese	X								
	Japanese						X			
Hull	*Korean*								X	
	Chinese					X				
	Japanese	X								
Lynn	*Korean*									X
	Chinese						X			
	Japanese								X	
Madrona	*Korean*	X								
	Chinese					X				
	Japanese	X								
Magruder	*Korean*									X

As mentioned earlier, during on-site school visits, the evaluator first interviewed the key project staff (principal, assistant principal, ESL teacher), reviewed documents, and then visited the grades and classrooms selected at random according to his sampling plan. During classroom visits, teachers and bilingual instructional assistants were observed and a review of student information was made. The review included the students' initial status and evidence of progress. Classroom observations and teacher interviews were greatly facilitated by the fact that either the principal, assistant principal, or the ESL teacher took over the teaching tasks, thereby freeing the classroom teacher and instructional assistant. In an effort to be as unobtrusive as possible, the evaluator attempted to keep the teacher and instructional assistant interviews to between ten and fifteen minutes.

The data gathered during his on-site visits, plus that received by mail later, form the foundation on which the evaluator based his findings together with his conclusion as to whether or not each project objective in the evaluation plan was attained.

GOAL 1.0 STUDENT INSTRUCTIONAL

By July 1991, Limited English Proficient (LEP) Chinese, Japanese, and Korean students in the six project middle schools, Calle Mayor, Casimir, Hull, Lynn, Madrona, and Magruder who have participated in the program from one to three years will demonstrate their progress towards increased English proficiency, academic achievement, and redesignation as Fluent English Proficient (FEP).

Student Objective 1.1

By September 1990, 75% or more project students at the six middle schools, combined, Calle Mayor, Casimir, Hull, Lynn, Madrona, and Magruder, who have taken the Comprehensive Test of Basic Skills (CTBS) in 1988, will show progress towards increased English proficiency academic achievement and redesignation (36th percentile). Expected percentage at each school: Calle Mayor, 60%; Casimir, 70%; Hull, 60%; Lynn, 70%; Madrona, 85%; and Magruder, 50%. (Documentation: project students' CTBS reading and language test scores.)

"English proficiency" was measured by two CTBS subtests: Reading and Language Arts. Frequency distribution data for percentile rank gain scores in reading are shown below in Table 4. Data shown include those from six percentile rank gain score categories as well as the total number and percentage of project students with positive percentile rank gain scores.

TABLE 4

CTBS Reading Percentile Rank Gain Scores
1989-1990

School	Total Number of Students	Amount of Percentile Rank Gain						Total with Positive Percentile Rank Gain Scores	
		Less than -10%	-10% to -1%	0%	1 to 9%	10% to 19%	Over 20%	n	%
Calle Mayor	24	1	4	0	9	6	4	19	79%
Casimir	9	0	2	1	4	2	0	6	67%
Hull	6	0	1	0	3	1	1	5	83%
Lynn	23	2	0	1	9	9	2	20	87%
Madrona	14	0	3	1	4	6	0	10	71%
Magruder	10	0	1	0	0	4	5	9	90%
Total	86	4	10	3	32	29	8	69	80%

Conclusion

The objective stated that 75% of the project students at all six middle schools combined would show "increased proficiency" on the CTBS Reading Subtest. The actual percentage for all project students was 80%. The evaluator, therefore, concluded that this first half of this "English proficiency" objective was attained.

Notation

Staff at two schools estimated a little too high. Casimir project staff thought 70% of their students would show increased proficiency, whereas 67% actually did. Madrona staff thought 85% would show increased proficiency, whereas 71% actually did. If one or two more project students had achieved a positive percentile rank gain score, both schools would have reached their estimated levels. The estimate at Casimir was off by only one student, while the estimate at Madrona was off by only two students.

Frequency distribution data for percentile rank gain scores in Language Arts are shown below in Table 5. Data shown include those from six percentile rank gain score categories as well as the total number and percentage of students with positive percentile rank gain scores.

TABLE 5

CTBS Language Arts Percentile Rank Gain Scores
1989 to 1990

School	Total Number of Students	Amount of Percentile Rank Gain						Total with Positive Percentile Rank Gain Scores	
		Less Than -10%	-10% to -1%	0%	1 to 9%	10% to 19%	Over 20%	n	%
Calle Mayor	25	1	2	0	1	7	14	22	88%
Casimir	9	1	2	1	2	2	1	5	56%
Hull	6	0	1	0	1	0	4	5	83%
Lynn	22	1	2	0	0	2	17	19	86%
Madrona	17	2	2	0	1	4	8	13	76%
Magruder	10	1	0	0	3	5	1	9	90%
TOTAL	89	-6	10	-1	5	19	49	73	82%

Conclusion

The objective stated that 75% of project students at all six middle schools combined would show "increased proficiency" on the CTBS Language Arts Subtest. The actual percentage for all project students was 82%. Since 82% exceeds the estimated target of 75%, the evaluator reports that this second half of the "English Proficiency" objective was also attained.

Notation

Estimates were again a bit high at Casimir and Madrona. Casimir staff estimated 70%; the actual percentage of students gaining in percentile rank scores from 1989 to 1990 was 56%. Madrona staff estimated 85%; the actual percentage was 76%.

Recommendation

That project staff at Casimir review the data for their project's students for clues as to why their actual figure of 56% was lower than that for the other schools.

Student Objective 1.2

By July 1990, 80% or more of the project students at the six project schools who have taken the CTBS Social Studies Tests February/March 1989 and have participated in social studies classes utilizing the sheltered approach with native language support will show six months' growth on the social studies portion of the CTBS tests. (Documentation: comparison of CTBS Social Studies pre- and posttest scores.)

Project student gain scores on the CTBS Social Studies Subtest were available for the first time at the end of the second project year. This was the case since the students took the Social Studies pretest in 1989 and the first posttest in 1990. This means that Student Objective 1.2 was written as part of the original grant application before actual baseline student test score data were available. Consequently, the objective--as written above--was a "best estimate" of what the project might attain by the end of the second year. As will be seen from the following analysis, the 80% figure was a little too high an estimate for one of the six project schools, very much too high for another school, but very accurate for the six schools combined.

Table 6 below presents the frequency distribution of CTBS Social Studies scores for each school. Table 7 shows the percentage of project students whose gain scores were six months or more.

TABLE 6

Frequency Distribution of 1989 to 1990 CTBS Social Studies Gain Scores

School	Total Number of Students	Amount of Gain						
		0 or less	1-2 mos.	3-4 mos.	5 mos.	6-7 mos.	8-9 mos.	1 year or more
Calle Mayor	23	0	1	1	0	1	3	17
Casimir	9	2	0	0	0	1	1	5
Hull	6	0	0	1	0	0	0	5
Lynn	20	4	0	0	0	0	0	16
Madrona	12	1	0	0	1	1	0	9
Magruder	9	4	0	0	0	0	0	5
Total	79	11	1	2	1	3	4	57

TABLE 7

Number and Percentage of Project Students Whose
CTBS Social Studies Gain Scores Were Six Months or More

School	Total Number of Students	Six Months or More of Gain	
		Number	Percentage
Calle Mayor	23	21	91%
Casimir	9	7	78%
Hull	6	5	83%
Lynn	20	16	80%
Madrona	12	10	83%
Magruder	9	5	56%
Total	79	64	81%

As shown in Table 7, at only Casimir (78%) and Magruder (56%) did the percentage of students with social studies gain scores of six months or more fall below the 80% level. Overall, that is for all six schools; the actual percentage of project students who had Social Studies gain scores of at least six months was 81%. Since this is above the 80% level in the objective (by 1%), this objective was--just barely--attained.

Conclusion

This objective was attained. Even without benefit of baseline data, the grant writers' estimate proved to be extremely accurate.

Recommendation

That project staff at Magruder review the data for their project's students for clues as to why their actual figure of 56% was lower than that for the other schools.

Student Objective 1.3

By July 1990, 80% or more of the project students at the six project schools combined who have taken the CTBS Science Tests February/March 1989 and have participated in science classes utilizing the sheltered approach with native language support will show six months growth on the science portion of the CTBS tests. (Documentation: comparison of CTBS Science Pre 1989 and Post 1990 Test scores)

This objective, too, was written into the grant application without the benefit of baseline data. As with the previous "Social Studies gain score" objective (Student Objective 1.2), the original estimate of 80% proved to be too high for two of the six schools but very accurate for the six schools combined.

Table 8 below shows the frequency distribution of CTBS Science gain scores for each school. Table 9 presents the percentage of project students whose gain scores were six months or more.

TABLE 8

Frequency Distribution of 1989 to 1990 CTBS Science Gain Scores

School	Total Number	Amount of Gain						
		0 or less	1-2 mos.	3-4 mos.	5 mos	6-7 mos.	8-9 mos	1 year or more
Calle Mayor	23	3	1	0	0	0	0	19
Casimir	9	2	0	0	0	0	1	6
Hull	6	0	0	0	0	1	0	5
Lynn	20	3	0	0	0	0	0	17
Madrona	12	2	0	0	1	0	1	8
Magruder	9	1	0	0	0	0	0	8
Total	79	11	1	0	1	1	2	63

TABLE 9

Number and Percentage of Project Students Whose CTBS Science Gain Scores Were Six Months or More

School	Total Number of Students	Six Months or More of Gain	
		Number	Percentage
Calle Mayor	23	19	83%
Casimir	9	7	78%
Hull	6	6	100%
Lynn	20	17	85%
Madrona	12	9	75%
Magruder	9	8	89%
Total	79	66	84%

As shown above in Table 9, at only Casimir (78%) and Madrona (75%) did the percentage of project students with Science gain scores of six months or more fall below the 80% level. Overall, for all six schools combined, the actual percentage was 84%.

Conclusion

This objective was attained. Again, the grant writers were unusually accurate in their estimate.

Activity Objective A.1.1

By November 1989, and each subsequent year, the principal, assistant principal, and the ESL teacher at each of the six project schools will identify those LEP students whose primary language is Chinese, Japanese, and Korean. (Documentation: the Torrance Unified School District's LEP initial identification records , including the Bilingual Syntax Measure in English, and the designated District Language Assessment Tests in English, and the student's primary language)

Identification procedures for LEP Chinese, Japanese, and Korean students are solidly in place and understood. The "Home Language Survey" is given to each potential project student by that child's classroom teacher. If indicated, a referral can then be made to the district's assessment center which is located at the same site where the Title VII director has her office. Regular classroom teachers, instructional assistants, ESL teachers, assistant principals, and principals are well aware of the procedures to be followed and the time frame within which project students are to be identified.

Conclusion

This objective was easily attained. The student identification process is well understood, fast, and efficient.

Activity Objective A.1.2

By November 1989, and each subsequent year, the principal, assistant principal, ESL teachers, and classroom teachers at the six project schools will see that the students who are identified as LEP Chinese, Japanese, or Korean have been placed in the "appropriate program": ESL, bilingual classroom, sheltered groups and/or classes. (Documentation: may include class lists and schedules)

Project staff are knowledgeable about the categories of "level 1 - beginning," "level 2 - intermediate," and "level 3 - advanced" within the Limited English Proficient (LEP) designation. Furthermore, placement of each LEP student into the "appropriate program" is a process that is efficient and even routine.

Conclusion

This objective was easily attained.

Activity Objective A.1.3

By June 1990, and each subsequent year at each project school, the ESL-sheltered social studies, science teachers, and instructional assistants will provide assistance to project students and keep records of project students' progress. (Documentation: may include student work folder, report cards, student progress reports, and computer printout grades)

During each of the six school site visits, the evaluator selected three LEP project students whose initial status and progress could be followed by means of observation, interview, and record review. The actual sample of eighteen project students was graphically displayed in Table 3 of this report. As mentioned earlier, the evaluator drew his sample from each of the three primary language groups (Chinese, Japanese, and Korean); each of the three project identified curriculum areas (ESL, social studies, and science); and each of the three grade levels (sixth, seventh, and eighth) at each Title VII middle school. Because the external evaluator controlled the selection of the students in the sample, the information gathered is believed to be representative of all Title VII Project participants.

The evaluator interviewed ESL, social studies, and science teachers as well as instructional assistants about the initial status, support provided to and progress of the sampled students. Again this year, it was clear that teachers and instructional assistants were working together well, understood the particular needs of their LEP students, and were implementing the project as described in the initial grant application and the 1989-1990 Program Evaluation Plan. The level of cooperation seen last year among ESL teachers, instructional assistants, and teachers of sheltered social studies and science classes continued at a high level.

Teachers and instructional assistants working in sheltered social studies or science classes demonstrated a knowledge of what "sheltering" was and were able to describe in detail what their sheltered strategies were for students in the evaluator's sample. According to reports, inservice training proved helpful. For example, at first, teachers were very uncomfortable with the fact that Non-English Speaking (NES) students would seem to "not respond." After attending inservice training, the teachers understood that, initially, NES students will "naturally be silent" since a characteristic of early "level 1" LEP status is "reception" of English but not "production" of English. Conscientious teachers were relieved to learn that silence from a new LEP student was to be expected and not at all a reflection on their failure to "get through." Teachers at all six schools reported their relief at learning this. By the second year of the project, they had learned to accept and expect student silence.

Project staff at the school sites were especially proud of translations into students' native languages that had just been completed by the district. A teacher said, "It relieved my soul . . . " when he was able to hand his LEP students translated copies of the rules for running different machines in his shop class. He said, "You should see their faces when they see that it's written so they can read it!"

Another teacher reported what happened when she gave a writing assignment to her class. She said to the evaluator that "One new LEP student wrote, I don't have any friends because I can't speak English!" The teacher said, "I wrote, 'I am your friend,' and put it on his desk!" (Please see Appendix A for a copy of the child's actual message, "My friend is Nobody....")

Again this year, the evaluator selected a sample of student work to place into the Appendix of this year's evaluation report. (See Appendix B.) Also in the Appendix are copies of an invitation to Madrona School's ESL parents and students asking them to assist in starting an "ESL Club," a script for an audio video orientation to Magruder School created by LEP students, and a page from Lynn School's "Multicultural Book: A Bridge To The World." (See Appendix C.)

Conclusion

This objective was easily attained.

Activity Objective A.1.4

By June 1990, and each subsequent year at each project school, sheltered classroom teachers, ESL teachers, instructional assistants, principals, and assistant principals will keep track of the relative amount of whole class, small groups, and/or individual instructional time spent with project students in each subject area. (Documentation: may include class schedules, sheltered lesson plans, project teacher and instructional assistant assignments, observations)

During the evaluator's on-site school visits, Title VII site personnel shared project student folder information, including initial identification records (Bilingual Syntax Measure [BSM] test results, etc.), and class schedules--one for each LEP student in the evaluator's sample. Initial LEP designation procedures (Home Language Survey by the classroom teacher and referral to the district's assessment center) were in place and had been used in the identification of project participants. LEP students had been identified efficiently, well within the designated time frame. Class schedules showed that selected LEP students were programmed into the appropriate reading (ESL), language arts, social studies and science classes. Their reading class was an ESL class specifically designed for students of their primary language group, and their social studies and science classes were "sheltered." For each student in the evaluator's sample, middle school "course and teacher" list information and LEP "student class schedule" information matched. Student class schedule information clearly showed which period a student was to be in which class, including his ESL, language arts, social studies and science classes. (Please see Appendix D for the assignments of instructional assistants.)

Conclusion

This objective was attained.

Activity Objective A.1.5.

By June 1990, and each subsequent year at each project school, principals and/or assistant principals at each project school with the assistance of sheltered classroom teachers, ESL teachers, and instructional assistants, will collect information on changes in the rate of student 1) grade retention; 2) dropout; 3) absenteeism; 4) placement in special education classes; and 5) placement in a program for gifted and talented. (Documentation: may include student lists, placement documentation, report cards, and school records)

For the second year in a row, each school reported changes in the five categories on a one-page form sent to the project director. Across all six schools, only two project children were reported in only one category, "referral to or placement in a special education class." Both of those children attended the same school, Calle Mayor. No school reported children in any other information change category. The only other category on the report form that received an entry other than "none" was "absenteeism." This category, in addition to "none," drew the two responses of "no excessive absenteeism" and "none of significance."

To better understand the project students' performance in at least one of the five categories, the evaluator asked school personnel for a "student attendance" printout for each LEP student in his sample. (See Table 3 of this report.) These records were readily available at each school. An inquiry about the student to the district's computer system was all that was needed. A computer terminal is located at each project school site. For the eighteen project students sampled, there were fifteen "legal" absences. In addition, for one child there were five "excused illegal" absences. In total, there were only twenty absences, all of them either "legal" or "excused," for eighteen students over a time period of about seven months. The information sampled confirmed the expectation that these Title VII project students (Chinese, Japanese, and Korean) have good school attendance records.

Conclusion

This objective was attained.

Student Objective 1.4

By July 1990, and each subsequent year, seventy-five percent (75%) of LEP Chinese, Japanese, and Korean project students at each of the six project schools will demonstrate positive self-esteem as a result of their participation in a school cultural event or events reflecting their cultures. [Expected percentage at each school: Calle Mayor, 55%; Casimir, 70%; Hull, 55%; Lynn, 50%; Madrona, 70%; Magruder, 50%.] (Documentation: project student questionnaire in their primary language)

As we have seen in three previous objectives, (Student Objectives 1.1, 1.2, and 1.3), Title VII grant writers in Torrance were extremely accurate in their estimates that 75% of LEP project students would show increased English proficiency and 80% would have CTBS gain scores of at least six months on both the Science and Social Science Subtests. It's difficult to maintain that level of accurate forecasting, however, as experience with this objective, Student Objective 1.4, suggested at the end of the first project year. An 80% level had been set, but the overall percentage for all project students in all six schools was a disappointing 56%. (This was reported in the First Evaluation Report, 1989.)

Project performance on this objective improved significantly from that first year to the second. The same basic "self-esteem" question was asked, "How did you feel about the cultural event that reflects your heritage?" Student responses for the 1989-1990 school year are shown below in Table 10. This time, the overall percentage of project students in all six schools who answered "good" or "very good" to the basic self-esteem question did reach the originally predicted level of 80%.

Dramatic improvement in positive responses from students occurred at Calle Mayor where the percentage of "good" and "very good" responses for the school went from 20% of 60 in 1989 to 84% of 58 in 1990. The positive percentage for Korean students at Calle Mayor was 100% for both years, so that the change in attitude from one year to the next was concentrated among Calle Mayor's Chinese and Japanese students. Only 22% of 9 of Calle Mayor's Chinese students had answered positively the first year, whereas 100% of 9 did the second year. And, whereas only 7% of 44 Japanese students at Calle Mayor answered positively the first year, 71% of 31 did the next year. (See Table 11.)

Percentages of positive responses also increased at Madrona [63% of 16 in 1989 to 79% of 19 in 1990]; Lynn [71% of 56 in 1989 to 80% of 81 in 1990]; and Hull [83% of 23 in 1989 to 88% of 17 in 1990]. At Casimir the positive response percentage remained at the same low level, 54% of 13 in 1989 to 51% of 23 in 1990. This is not in line with expectations at Casimir where project staff estimated 70% of their Title VII students would answer the basic self-esteem question positively. Except for Casimir, (54%, 51%), all project schools' 1989-1990 positive self-esteem percentages were near the 80% level or higher. (See Table 11.)

At the project level there was dramatic improvement from the first to the second year of the project. The first year, only 56% of the project students felt either "good" or "very good" about the cultural event(s) at their school. By the end of the second year, the figure was 80%. At only one school, Casimir, was the expected percentage of positive responses (70%) not reached (51%), and at Calle Mayor there was a significant gain from the first year (20%) to the second (84%). At Casimir the positive response rate remained essentially flat at 54% in 1989 and 51% in 1990. In 1989, Calle Mayor was the lowest and Casimir the second lowest. After Calle Mayor's dramatic rise in 1990, Casimir had the lowest percentage in 1990. Whereas districtwide the positive response percentage was 80% and all five of the other schools reached 79% or higher, Casimir remained near 50%. (See Tables 10 and 11.)

TABLE 10

Responses by Title VII Students to the Question, "How Did You Feel About the Cultural Event That Reflects Your Heritage?"

Middle School	Primary Language	Student Response Categories & Frequencies					Total No. Responding	Percentage Answering Positively Either "Good" or "Very Good"	
		"Very Good"	"Good	"Indifferent"	"Bad"	"Very Bad"		Each Language	Each School
	Chinese	5	4	0	0	0	9	100%	
	Japanese	7	15	7	1	1	31	71%	
	Korean	14	4	0	0	0	18	100%	
Calle Mayor	School Total	26	23	7	1	1	58		84%**
	Chinese	1	0	0	0	0	1	100%	
	Japanese	0	4	7	1	0	12	33%	
	Korean	1	6	3	0	0	10	70%	
Casimir	School Total	2	10	10	1	0	23		51%
	Chinese	1	4	0	0	0	5	100%	
	Japanese	0	5	0	0	0	5	100%	
	Korean	1	4	2	0	0	7	71%	
Hull	School Total	2	13	2	0	0	17		88%**
	Chinese	2	13	4	0	0	19	79%	
	Japanese	6	17	4	1	1	29	79%	
	Korean	9	18	5	0	1	33	82%	
Lynn	School Total	17	48	13	1	2	81		80%**
	Chinese	0	0	0	0	0	0	0%	
	Japanese	2	5	2	0	1	10	70%	
	Korean	6	2	0	0	1	9	89%	
Madrona	School Total	8	7	2	0	2	19		79%**
	Chinese	0	7	0	0	0	7	100%	
	Japanese	1	3	0	0	0	4	100%	
	Korean	4	10	2	0	0	16	88%	
Magruder	School Total	5	20	2	0	0	27		93%**
GRAND TOTAL		60	121	36	3	5	225		80% *

* Above the percentage in the Evaluation Plan Objective.
** At or above the expected percentage at each school.

TABLE 11

Comparison of Project Student Responses to the Question, "How Did You Feel About The Cultural Event That Reflects Your Heritage?" for 1988-1989 and 1989-1990

		Academic Year When Students Responded					
		1988 - 1989			1989 - 1990		
		Percentage Answering Positively Either "Good" or "Very Good"			Percentage Answering Positively Either "Good" or "Very Good"		
Middle School	Primary Language	Total No. Responding	Each Language	Each School	Total No. Responding	Each Language	Each School
	Chinese	9	22%		9	100%	
	Japanese	44	7%		31	71%	
	Korean	7	100%		18	100%	
Calle Mayor	School Total	60		20%	58		84%
	Chinese	1	0%		1	100%	
	Japanese	8	50%		12	33%	
	Korean	4	75%		10	70%	
Casimir	School Total	13		54%	23		51%
	Chinese	3	67%		5	100%	
	Japanese	5	60%		5	100%	
	Korean	15	93%		7	71%	
Hull	School Total	23		83%	17		88%
	Chinese	15	80%		19	79%	
	Japanese	23	65%		29	79%	
	Korean	18	72%		33	82%	
Lynn	School Total	56		71%	81		80%
	Chinese	4	75%		0	0%	
	Japanese	12	58%		10	70%	
	Korean	none	none		9	89%	
Madrona	School Total	16		63%	19		79%
	Chinese	1	100%		7	100%	
	Japanese	3	100%		4	100%	
	Korean	10	100%		16	88%	
Magruder	School Total	14		100%	27		93%
GRAND TOTAL		182		56%	225		80%

Conclusion

This objective was attained. The objective called for 75% of project students at all six schools combined to respond positively to the cultural experience question, whereas 80% actually did.

Recommendation

That Casimir staff continue to discuss and evaluate student attitudes about their school's cultural events among themselves and with their LEP project students.

Activity Objective A.1.6

By July 1990, and each subsequent year, at least one cultural event involving the Chinese, Japanese, and Korean cultures separately or together will be held at each project school. (Documentation: proof of held event, such as invitations, notices, school calendars, and pictures)

By this objective, project children from all three language groups at each school were to be involved in at least one cultural event during the school year. The following events were actually held.

Cultural Events for 1989 - 1990

- **Calle Mayor Middle School**
  International Luncheon (all three groups)
  Chinese dance performers (all three groups)
- **Casimir Middle School**
  International Thanksgiving (all three groups)
- **Hull Middle School**
  International Luncheon (all three groups)
- **Lynn Middle School**
  Multicultural, "Bridge to the World" (all three groups)
  Dragon Festival (Chinese)
  Boys' Day and Girls' Day (Japanese)
  Children's Day (Korean)
- **Madrona Middle School**
  "China: The Country" (all three groups)
  Japanese Drummer (all three groups)
  Korean Dancers (all three groups)
- **Magruder**
  Alphabet Calendar (Chinese)
  Kaiku, Tanka, Tasako, Origami projects, video (Japanese)
  Paper folding, Sijo-game, Korean Cinderella (Korean)

Conclusion

This objective was attained.

Student Objective 1.5

By July 1990, and each subsequent year, 10% of project students in each of the six project schools combined, Calle Mayor, Casimir, Hull, Lynn, Madrona, and Magruder identified as of September 30 of each school year, will be redesignated as Fluent English Proficient (FEP). (Expected percentage at each school: Calle Mayor, 8%; Casimir, 4%; Hull, 8%; Lynn, 10%; Madrona, 12%; Magruder 10%)

The results of redesignation testing and conferencing are shown below in Table 12.

TABLE 12

Number of Percentage of Title VII Students Who Were Redesignated 1989-1990

School	Number of Project Students	Number	Percentage
Calle Mayor	63	7	11.1% *
Casimir	40	4	10.0% *
Hull	26	2	7.7%
Lynn	80	9	11.3% *
Madrona	40	7	17.5% *
Magruder	32	7	21.9% *
Total	281	36	12.8% *

* Actual percentage redesignated exceeded estimate.

Project-wide, 12.8% of Title VII students were redesignated as Fluent English Proficient (FEP). This exceeded the 10% figure stated in the objective. At five of the six project schools the estimated percentage of students who would be redesignated was exceeded by the percentage actually redesignated as fluent. Hull staff had estimated 8% would be redesignated and 7.7% actually were. Project staff at Hull came as close as was mathematically possible to their redesignated percentage estimate without equaling or exceeding it. The difference between 7.7% actual and 8% estimated is, of course, trivial.

Conclusion

This objective was attained. Across all schools more than 12% were redesignated while the objective called for 10%.

Student Objective 1.6

By July 1990, and each subsequent year, 70% or more of the redesignated project students in the project schools or other Torrance schools will be experiencing satisfactory progress in the regular instructional program after the first quarter of the school year. (Documentation: follow-up questionnaire after the first quarter)

On the follow-up form sent to each of the six Title VII school principals, the question was, "Are there any difficulties or problems that have arisen?" in regard to the academic progress of the redesignated student identified on the form.

The results of the follow-up of LEP project students who were redesignated as FEP are shown below in Table 13.

TABLE 13

Number and Percentage of Redesignated Students Who Were Experiencing Academic Problems in the Regular Instructional Program

School	Number of Redesignated Students in Follow-up	Number and Percentage of Redesignated Students Who Were Experiencing Problems	
		n	%
Calle Mayor	3	0	0%
Casimir	2	0	0%
Hull	1	0	0%
Lynn	0	0	0%
Madrona	0	0	0%
Magruder	4	0	0%
Total	10	0	0%

Conclusion

Since the objective called for 70% of redesignated students to be experiencing satisfactory progress and 100% were experiencing satisfactory progress, this objective was attained.

Activity Objective A.1.7

By March 1990, and each subsequent project year, the principal and/or assistant principal will provide a follow-up of redesignated project students in project or other Torrance schools to determine if they are experiencing satisfactory progress in the regular instructional program after the first quarter of the school year. (Documentation: follow-up questionnaire and grades)

As noted in relation to the previous objective, a form was created by which to gather information on former LEP project students who had been redesignated as "Fluent English Proficient (FEP)." Each middle school principal was responsible for seeing that the form was completed and was to sign it before sending it to the district's Title VII coordinator. A copy of a report on one redesignated student at one of the six middle schools is in Appendix E. Carol Riley, the principal who sent this report, noted that the child "Scored between the 48th and 99th percentile on his most recent CTBS test" and that "His GPA for fall, 1989, was 3.71." To the one-page report form requested from her, she attached copies of the redesignated student's CTBS test report and grade report card. It was helpful to have the test and grade reports attached. (See Appendix E.)

Conclusion

This objective was attained.

Recommendation

That all principals attach the most recent CTBS test results and grade report to the "follow-up form" when sending the form to the Title VII office.

GOAL 2.0 STAFF DEVELOPMENT

The sheltered science, social studies, ESL teachers, and project instructional assistants of the six project middle schools, Calle Mayor, Casimir, Hull, Lynn, Madrona, and Magruder will participate in inservices on the sheltered approach and be provided career ladder opportunities for bilingual teaching.

Activity Objective A.2.1

By September 1990, 90% or more of selected sheltered science, social studies, ESL teachers, and project instructional assistants of the six project middle schools will be inserviced as needed in second language acquisition, sheltered approach, cooperative learning, and Chinese, Japanese, and Korean, cultural awareness. (Documentation: project director will provide sign-in attendance sheets)

A number of inservice sessions were held in the district. In addition, selected Title VII staff attended conferences whose themes directly related to Title VII concerns.

Inservice experiences included:

- An "Asian Literature Follow-up"
  (January 9, 1990)
- A "Title VII Instructional Assistants' Inservice"
  (January 19, 1990)
- A "Sheltered Teachers' Follow-up Meeting"
  (March 15, 1990)
- The Annual Conference of "California Association of Teachers of English to Speakers of Other Languages (CATESOL)"
  (March 29 - April 1, 1990)
- A conference entitled, "Integrating Asian American Perspectives into the Social Studies Curriculum"
  (May 3, 10, 24, 1990)
- "Cooperative Learning Summer Training"
  (July 9-13, 1990)
- "Individualized Inservice"
  (continuous)

Conclusion

This objective was easily attained.

Activity Objective A.2.2

By September 1990, and each subsequent year, those project teachers with bilingual classes who are not fully certificated as bilingual instructors will be encouraged to participate in university or college courses specifically preparing them for bilingual instruction certification. (Documentation: class enrollment and completion)

The district did encourage those project teachers who were not fully certificated to enroll in courses designated to prepare them for full bilingual instructional certification. Records supplied by the Title VII project director confirmed this. For example, as early as November 1989, the district Title VII office had identified twenty-four applicants for the "Japanese 1A" language course, 1989-1990. For those teachers who wanted it, three quarter units of credit were available from the California State University at Los Angeles (CSULA). The course met at Levy Center, Torrance Unified School District, on Thursdays and Saturdays. This course, "Japanese Level 1A-Beginning," was followed by "Level 1B" and "Level II" during the year 1989-1990.

Another course, "Bilingual Methodology" was offered in February 1990. This class, too, met after school and on Saturdays at a school, Lennox Middle School, in the district.

In the summer of 1990 the district arranged a "Japanese II and III" language class. The class met in July and August at Levy Center, Torrance Unified School District.

Conclusion

This objective was easily attained.

GOAL 3.0 MATERIALS

The middle school curricula of literature-based language arts, social studies, and science will be modified based on the sheltered approach. Science, social studies, and ESL teachers will develop audio visual materials such as realia, charts, and picture files as needed.

Activity Objective A.3.1

By September 1990, and each subsequent year of the project, ESL, social studies, and science teachers from the six project schools will modify the existing middle school curriculum of literature-based language arts, social studies, and science using the sheltered approach, and develop audio-visual materials as needed. (Documentation: modified curriculum in the previously mentioned content areas)

Four video productions were underway or had been completed by the end of the academic year, 1989-1990. The first concerned World War II "relocation camp" experiences of Japanese American citizens and military police. Mrs. Kikuko Nishi, the district's Title VII Project director, was an internee, and so was interviewed by 8th grade LEP students. Also interviewed was a man who had served as a military policeman during that time. The second video production concerned a Japanese soldier's experience when visiting Hiroshima after the atomic bomb explosion. These first two productions are described below.

Two Video Productions 1989-1990

- **Relocation Camp**

  Interview of Camp Internee, Kikuko Nishi, by Hull Middle School 8th grade language arts class teacher Nancy Bartelt. February 9, 1990, (pictures to be added).

  Interview of Military Police, Mr. Fox, by daughter, Deborah Fox. July 10, 1990.

- **Hiroshima No Pika book**

  Interview of George Okamoto by teachers, Lela Belle Wolfert, Marilyn Powers, Deborah Fox, and Sandy Otos. (Subject: Japanese soldier's experience at the end of World War II in Hiroshima after the atomic bomb had been dropped.) August 15, 1990.

The third video concerned a repatriated Japanese soldier's experience of returning home to Japan after the war. The last video focused on the Japanese perspective in art and cultural values.

Curriculum was modified in both 6th grade science and 7th grade core topics. Sixth grade physical science, life science, and earth science topics were modified. (See Appendix F.) Out of sixty-four seventh grade core topic learning modules, modification had taken place on fifteen. Seventh grade topics that were modified included those shown below.

A Sample of Modified Seventh Grade Core Topics

- "Scientists Who Study the Past"
- "Rome's 400-year Empire"
- "Islam's Five Pillars of Wisdom"
- "Incas: Rules of the Andes"
- "Francis of Assisi: Gentle Saint"
- "Michelangelo, Leonardo, Raphael..."
- "John Locke: Philosopher of Freedom"
- "Montesquieu Voltaire, Rousseau..."

Conclusion

This objective was attained.

Activity Objective A.3.2

By September 1990, and each subsequent year, Chinese, Japanese, and Korean instructional assistants will translate the modified middle school sheltered approach curriculum as needed. (Documentation: translated curriculum)

Translations did occur; however, one notable problem arose. When the software package entitled "MacChinese" was purchased and used, it produced Chinese using the "new revised" characters. Unfortunately, those characters were incomprehensible to most of the project's LEP Chinese students. Software that provides old Chinese characters is needed but not yet available for the Macintosh SE.

An example of a 6th grade science lesson that had been translated was "Chemical Changes." In Appendix G the two page English outline is followed by a translation into Korean for the first page and a translation into Japanese for the second page.

The nine social studies modules developed in the first year were translated into all three languages, but sixteen seventh grade core topics which were modified in year two have not been translated.

Conclusion

Although progress was made, needed translations were not completed. This objective was, therefore, not attained.

Activity Objective A.3.3

By September 1990, and each subsequent year, the project director and staff will locate, evaluate, acquire, and/or develop as needed, instructional materials for literature, social studies, and science for grades 6, 7, 8, in English, Chinese, Japanese, and Korean. (Documentation: instructional materials)

Two impressive lists of Title VII instructional materials were made; one for the first project year, 1988-1989, and one for the second, 1989-1990. The materials were separated into categories; e.g., "General," "English Language Arts," "History-Social Science," and "Science."

Conclusion

This objective was attained.

GOAL 4.0 PARENT TRAINING

Parents of project students at the six middle schools, Calle Mayor, Casimir, Hull, Lynn, Madrona, and Magruder will be encouraged to participate in parent education.

Activity Objective A.4.1

By July 1990, and each subsequent project year, all parents of project students at each school will be encouraged to be involved in school or class activities of their children, and parent education. (Documentation: may include notifications, agenda, sign-in-sheets, pictures of presentations or activities)

Title VII Project staff at the school sites provided ample documentation of their invitations to parents. Letters, notices, and articles in the school newspaper were used.

Conclusion

This objective was easily attained.

Activity Objective A.4.2

By June 1990, and each subsequent year, 70% or more of project students' parents responding to a questionnaire will demonstrate awareness of school activities directed towards parent education. (Documentation: returned questionnaires)

Parent questionnaire results are shown below in Table 14. In decending order the percentage of project students' parents answering "Yes" to the "Were you informed (of the following seven school activities)?" question was: Lynn (82%); Calle Mayor (80%); Madrona (77%); Casimir (72%); Hull (65%); and Magruder (53%). Overall, for all six project schools and all seven school activities the affirmative response rate was 74%.

For certain school activities the positive response rate among parents sometimes fell to 60% or below. For example, at all six schools, the positive response rate was below 60% for the school's "parent education program." Another less favored category was "class activities." It received a 60% at Magruder, a 59% at Madrona, and a 43% at Hull. At Magruder three more school activities received a below 60% positive response from parents of LEP students. They were: 50% for "Back to School Night," 40% for "Special School Activities," and 33% for "Bilingual Advisory Committee Meetings." This last figure seems especially low.

Conclusion

Overall, 74% of parents of LEP students were "aware" of various school activities. Since 74% exceeds the 70% called for in the objective, the evaluator reports that this objective was attained. The 74% overall positive rate masks some low percentages elsewhere, however.

Recommendation

Since 40% or more of all project parents were not aware of the "Parent Education Program" at their LEP child's school, Title VII staff at each school should investigate this area of apparent miscommunication. Furthermore, those schools which received low positive responses on other school activities should try to more clearly identify those activities to project parents and to better communicate the school's request for their participation.

TABLE 14

Responses by Parents of Project Students to the Question, "Were You Informed of the following School Activities During the School Year?

School Activities	Total Answering "Yes" by School											
	Calle Mayor		Casimir		Hull		Lynn		Madrona		Magruder	
	n	%	n	%	n	%	n	%	n	%	n	%
Back to School Night	37	95%	21	84%	11	73%	29	91%	15	68%	8	50%
Open House	37	97%	21	84%	12	80%	30	91%	23	100%	13	87%
PTA Program	32	84%	20	80%	10	67%	28	85%	19	83%	10	67%
Bilingual Advisory Committee Meetings	30	77%	18	72%	12	75%	24	77%	20	87%	5	33%
Special School Activities	31	78%	17	68%	13	81%	30	91%	25	81%	6	40%
Class Activities	27	75%	16	64%	6	43%	17	74%	13	59%	9	60%
Parent Education Program	20	56%	13	52%	4	31%	13	54%	13	57%	5	33%
Total		80%		72%		65%		82%		77%		53%

GOAL 5.0 MANAGEMENT

The project director will manage the project for the six middle schools, Calle Mayor, Casimir, Hull, Lynn, Madrona, and Magruder.

Activity Objective A.5.1

By October 1989, and each subsequent year, a project director will be employed to coordinate project activities as evidenced by board approval of hiring. (Documentation: contract memos)

A review of the record indicates that on May 1, 1989, Torrance Unified school District issued a "Notice of Employment" to Mrs. Kikuko Nishi, Title VII resource teacher/coordinator. Her signature seven days later indicated her "Acceptance" of the district's "Offer" of employment.

Conclusion

This objective was easily attained.

Activity Objective A.5.2

By July 1990, and each subsequent year, the project director will establish a project bilingual advisory committee, composed of project students' parents from Calle Mayor, Casimir, Hull, Lynn, Madrona, and Magruder middle schools. The advisory committee will meet a minimum of two times. (Documentation: meeting notices, minutes)

The Title VII Project Advisory Committee met twice, once on October 30, 1989, and again on May 11, 1990. Minutes were taken of each meeting.

Conclusion

This objective was easily met.

Activity Objective A.5.3

By July 1990, and each subsequent year, the project director will visit each school to review the program quality and compliance. (Documentation: may include dates, interviews, observations)

The project director visited Title VII middle schools frequently. Her review visits for program quality and compliance are listed below.

Table 15
Project Director's Pre-review Visits

School	Dates
Calle Mayor	February 7, 1990
	March 8, 1990
	May 4, 1990
Casimir	February 6, 1990
	March 27, 1990
	April 16, 1990
Hull	February 8-9, 1990
	April 20, 1990
Lynn	February 6, 1990
	March 9, 1990
	May 15, 1990
Madrona	February 23, 1990
	March 15, 1990
	April 25, 1990
Magruder	February 7, 1990
	March 8, 1990
	April 18, 1990

Conclusion

This objective was attained.

Sections 4 and 5

Possible Program Evaluation Plan Revision
and
Possible Program Modification

Only one objective, Activity Objective A.3.2., was unattained during the second year of the project. Although some modification of middle school sheltered approach curriculum had been translated, a large amount of translation work remains.

Project staff are justifiably pleased with their high attainment level of second year Evaluation Plan objectives and with the way in which those objectives are written. For this reason, only minor changes to the Evaluation Plan and the program itself are expected as the project moves into its third year.

One final note. For a number of reasons, the Title VII Evaluation Report for next year, 1990-1991, will necessarily have to be reduced in length. After discussions with the project director, the decision reached involves a reduction in the evaluator's narrative not in the number of 1990-1991 Evaluation Plan objectives that will be examined.

Appendix A

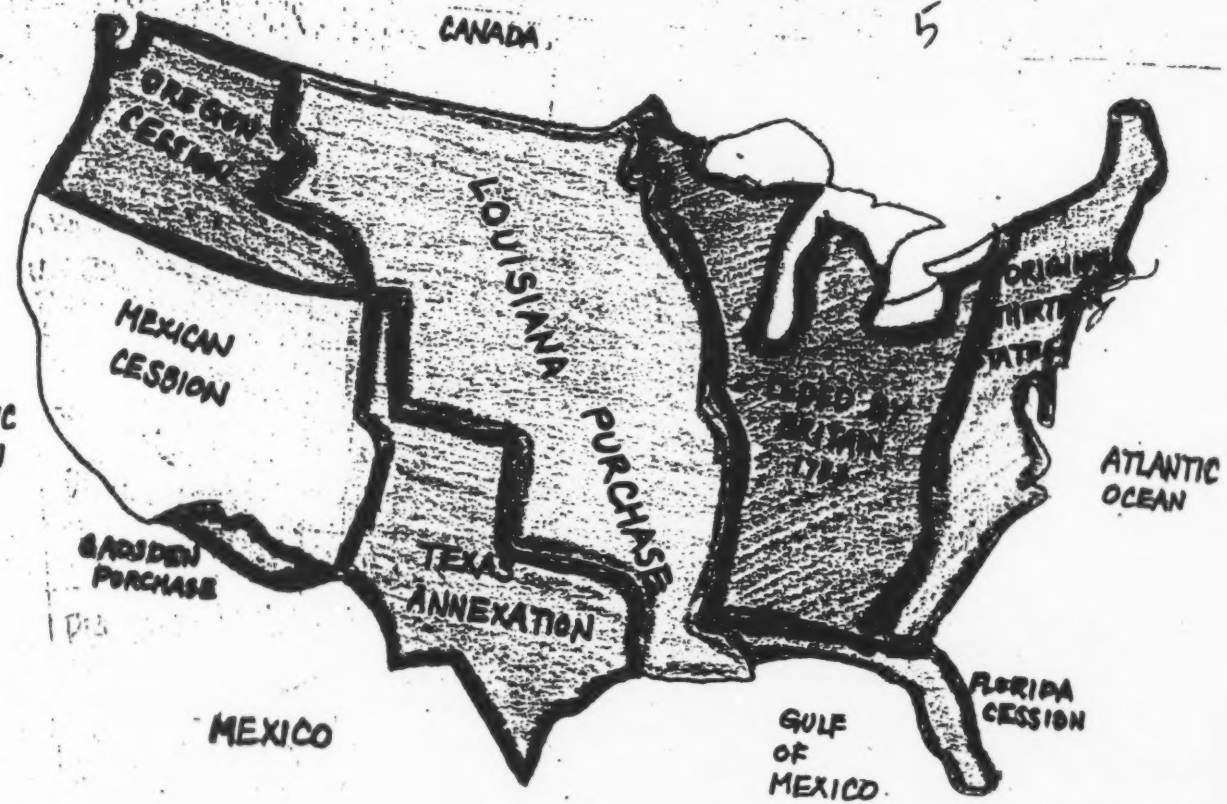
Student Work
"My Friend is Nobody"

[redacted]
[redacted]
per 1.
feb 14, 90

my name is [redacted].
my friend IS NOBODY. because. I
don't know ENGLISH.

© US EXPANSION

FILL IN ~~THE~~ SECTIONS ON THIS MAP USING THE NAMES ON THE CHART (attached)



BEST COPY AVAILABLE

NAME C Per. -2	LOUSIANA PURCHASE	FLORIDA CESSION	TEXAS ANNEXATION	OREGON CESSION	MEXICAN CESSION James Lim 3/16	GADSDEN PURCHASE
YEAR ACQUIRED (23)	1803	1819	1845	1846	1848	1853
COUNTRY FROM WHICH ACQUIRED	FRANCE	SPAIN	ANNEXED	BRITAIN	MEXICO	MEXICO
PRICE OR TERMS	2¢ per acre $15 million	$5 MILLION and its claim to Texas	President Polk got Congress to annexed Texas.	49th Parellel	$15 million	$10 million
PRESIDENT DURING ACQUISITION	JEFFERSON	MONROE	TYLER	POLK	POLK	PIERCE
HOW ACQUIRED PURCHASE Treaty	PURCHASE	TREATY	ANNEXATION	TREATY	TREATY OF GUADALUPE HIDALGO	PULCHASE

Appendix B

Student Work
Definitions

Constitution	〔kánstetjú:ʃən〕	組織 構成	カ(コ)ンスティテューション
withstood	〔wiθstúd〕	～に抵抗する	ウィズストゥド
proved	〔pru:vd〕	～を証明する	プルーヴ
wise	〔waiz〕	かしこい 分かって	ワイズ
stable	〔stéibl〕	安定した しっかりした	スティブル
document	〔dákjəmənt〕	文書 書類 証書	ダ(ド)キュメント
however	〔hauévər〕	どんなに～しても(でも)	ハウエヴァ
doubts	〔dauts〕	～をうたがう しんじない	ダウト
generally	〔dʒénərəli〕	一般(的)に広く	ジェネラリ
approved	〔əprú:vd〕	～をよいと認める	アプルーヴ
elected	〔iléktid〕	(役職者)を選挙〔選出〕する	イレクト
provisions	〔prəvíʒənz〕	用意 準備	プロヴィジョン
Article VII	〔á:rtikl〕	品物 一点	アーティクル
approval	〔əprú:vəl〕	承認 賛成	アプルーヴァル
approve	〔əprú:v〕	～に賛成する ～を承認する	アプルーヴ
necessary	〔nésəseri〕	必要な	ネセセリ
enough	〔inʌ́f〕	必要なだけ じゅう分の	イナフ
arguments	〔á:rgjumənt〕	議論 論争	アーギュメント(ツ)
various	〔vé(ə)riəs〕	さまざまの	ヴェ(ア)リアス
government	〔gʌ́vərnmənt〕	政府 内閣	ガヴァンメント
individual	〔indivídʒuəl〕	個人の それぞれの	インディヴィヂュアル
endangered			
main	〔méin〕	力 能力	メイン

Appendix C

Madrona's ESL Club

MADRONA MIDDLE SCHOOL

21364 MADRONA AVENUE
TORRANCE, CALIFORNIA 90503
533-4562

October 30, 1989

DEar ESL Students and Parents;

We are planning to start an ESL Club that will meet on Tuesdays from 2:35 - 3:30 p.m. here at Madrona. The focus of the club will be both academic and social. Members will have the opportunity to practice presentations they may be giving for other classes, collaborate on homework, play games, or simply socialize.

Our first meeting will be on Tuesday, November 7 in Room 18. This will be to discuss possible activities and elect officers. All ESL students (both LEP and FEP) are welcome and encouraged to come.

Your permission is required for your child to remain at school after normal school hours. Please sign and return the permission slip below in order for your child to participate in ESL club activities.

Sincerely,

Vicki Alvarez

Vicki Alvarez, ESL Teacher
Madrona Middle School

Diana Murray,
Assistant Principal
Madrona Middle School

VA:mjc

_____ has my permission to
Student's Name
attend the Madrona Middle School ESL Club Meetings each Tuesday from 2:35 - 3:30 p.m. We will make our own arrangements for transportation from school on those days.

_____
Parent's Signature

Appendix C

Magruder's Audio Video Presentation

SCRIPT FOR THE MAGRUDER MIDDLE SCHOOL ORIENTATION

PHILLIP MAGRUDER MIDDLE SCHOOL
TORRANCE,CALIFORNIA

AUDIO	VIDEO
1. Welcome to the Magruder Middle School family this tape has been put together for you to help your stay with us be happy and successful.	1. blacktop-students waving teachers- aides-office staff-custodians-administration
2. To enroll at Magruder you must fill out enrollment forms, provide proof of address and immunization for ??? other?	2. front office Hiroko and Vicki pointing at forms. Include nurse's area
3. You will be tested to determine your math and reading levels so that we may program you in the proper classes for success.	3. student taking test in the teachers work room, Mr. DiNoto making up shedule
4. On your first day in class you will be expected to have a three hole notebook, pencil, pen and paper supplies. Our Parent Teacher Association can help out if this is a problem. We feel our students are more successful if they have this equipment. Tennis shoes are are needed for you Physical Education class	4. any classroom, choose several students for a variety of notebooks and pencil holders, could show PTA board with some supplies P.E. classes, shoot various types of shoes that Patty thinks are suitable
5. All English as Second Language students need an English ditionary as well as the other supplies. An ESL teacher and aide will be provided in the core classes where possible to assist students. (could give a break-down here of # of languages)	5. any core classroom where Joyce or an aide are working with ESL student 6th, 7th, 8th science social science, English. show visuals
6. If you are absent you must bering a note to the office attendance clerk the day you return and she will give you a readmit. If you need to leave school early or arrive late for any reason bring a note to the clerk and she will give you the proper paper work. Magruder rewards students who have perfect attendance. Our records show that with regular attendance students earn better grades	6. Vicki's office in the morning giving out re-admits Possible scene from awards assembly

Appendix C

Lynn's "Bridge to the World"

THANK YOU to the following people whose collaborative efforts helped produce LYNN SCHOOL'S MULTICULTURAL BOOK!

Marlene Schiens, who developed the prompt for Lynn's BRIDGE TO THE WORLD essays and coordinated the activities for our Multicultural Day.

Sheila Weister, editor and typist of LYNN SCHOOL'S MULTICULTURAL BOOK.

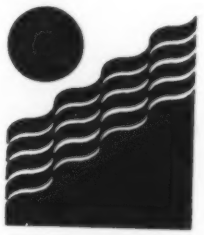
Lynn's 6th Grade teachers - Marion Baldwin, Peggy Jensen, Ed Matz, Terry McGinnis, Marjorie McKarns, Toni Sexton, Lynn Sonaty, and Tracy Williamson - and the 7th/8th Grade Language Arts staff - Nancy Derrick, Pat Donahue, Kay Furey, Billie Jones, Marilyn Powers, Marlene Schiens, Sheila Weister, and Michelle Williamson - for supporting this effort and encouraging their students to explore their places on the BRIDGE TO THE WORLD.

And a very special THANK YOU to all the students at Lynn Middle School. Your essays, poems, and illustrations share your thoughts and ideas about the talents you will contribute to building a strong BRIDGE TO THE WORLD.

Congratulations to all of you whose essays, poetry, and art work are presented in LYNN SCHOOL'S MULTICULTURAL BOOK.

ESSAYS

Aiku Akutagawa
Lily Arceo
Raina Bayas
Joshua Bouma
Danny Butler
Eun Ha Cho
Cindy Chou
Carrie Chuang
Joanne Chuang
Jane Chun
Tyler Doupe
Shira Franco
Debbie Gibson
Shannon Gibson
Sharon Grewall
Jennifer Hasseldt
Fred Hsu



Jeanene Hudgins
Sophia Kim
Sunshine McDaniel
May Miura
Dudley Nichols
Steven Powell
Joshua Roehm
Jessica Schilling
Nick Spreitzer
Jeremy Shortell
Carmina Toribio
Daniel Tang
Casey Udall
Jennifer Vroman
Erica Washburn
Jason Yang

POETRY

Shannon Gibson
Richard Reid
Tim Rider
Jessica Ryland
Shila Shen
Billy Yang

ART WORK

Sheila Chanini
Grace Cho
Pauline Chu
Carrie Chuang
Shannon Gibson
Jeanene Hudgins
Cindy Liu
John Magone
Shila Shen
Angela Song
Aimee Yang
Keisuke Yoshida

Appendix D

Schedules of Instructional Assistants

SCHOOL	CHINESE	JAPANESE	KOREAN
LYNN Starting Date Days Time	Sandy Tu (5) M. & Thur. 8:30 - 11:30 am	Kiyo Noto (10) M.T. & W. 8:30 - 11:30 am	Jin Song (15) M. & F. 8:30 - 11:30 am
MAGRUDER Starting Date Days Time	Anna Lin (3) Friday 8 - 11:00 am	Kiyo Noto (5) Th. & F. 9:00 - 11:30 am	Connie Kim (11) M.T. & W. 8:15 - 12:00
CALLE MAYOR Starting Date Days Time	Sandy Tu (5) M. & Thurs. 1:00 -2:30pm Wed. 8:30 - 11:30am	Hiroko Mitsukawa (15) M.T.Thurs.& F. 11:00 - 2:35 pm Wed. 8:15 0 11:15 am	Connie Kim (8.5) Thurs. & F. 9:45 - 2:35 pm
HULL Starting Date Days Time	Anna Lin (3) Friday 11:15 - 2:15 pm	Yaeko Saito (6) M.T.W.Th. & F.	Daniel Lee (5) F. - 2 hrs. Jill Hwang M. & W. - 3 hrs
MADRONA Starting Date Days Time	Bessie Chen (3) 9/29/89 -12/15/89 Anna Lin (3) W. - 9:00 - 12:00	Yaeko Saito (9) M.T.W. Th. & F.	Jill Hwang (7) M.T.W. & Thurs.
CASIMIR Starting Date Days Time	Anna Lin (1) Wed. - 8 - 9 am	Ryoko Kawano (15) 10/18/89 - 12/15/89 Teiko Nishi (15) T. W. & Th.	Jennifer Lee (6) T. & Thurs. 8:30 - 11:30 am

Appendix E

Follow-up of Redesignated Title VII Middle School Project Students Completed One Page Report

TO: Carol Riley, Calle Mayor DATE: 5/17/90

FROM: Kikuko Nishi KN

RE: Follow-up of Redesignated ESL Student.

[redacted] has left the Limited English Proficiency program (English As a Second Language program) and is now enrolled in the regular instructional program.

Are there any difficulties or problems that have arisen? Yes__ No X

[redacted] scored between the 48th and 99th percentile on his most recent CTBS test. His GPA for Fall, 1989 was 3.71.

Carol Riley Calle Mayor 5/17/90.

Principal School Date

Please return to Title VII Middle Schools, Levy. Thank you.

CTBS Comprehensive Tests of Basic Skills

Student Interpretive Report

NAME [redacted]
SCHOOL CALLE MAYOR MID

DISTRICT TORRANCE UNIF
CITY/STATE TORRANCE CA
RUN DATE 03/29/89

FORM/LEVEL U/H
GRADE 07
TEST DATE 03/89

	NCR	SS	GE	NCE	NP
VOCABULARY	30	710	7.4	49	48
COMPREHENSION	32	756	8.3	53	56
TOTAL READING	62	733	7.8	51	51
SPELLING	24	724	8.8	68	68
LANGUAGE MECHANICS	26	758	11.8	71	84
LANGUAGE EXPRESSION	35	723	9.6	62	72
TOTAL LANGUAGE	61	737	11.2	68	80
MATH COMPUTATION	* 48	*823	12.9	* 99	* 99
MATH CONCEPTS & APPL.	44	754	12.9	92	98
TOTAL MATH	84	789	12.9	99	99
TOTAL BATTERY	207	753	11.7	74	87
REFERENCE SKILLS	15	759	10.4	69	81
SCIENCE	34	752	12.5	78	83
SOCIAL STUDIES	27	719	8.5	56	61

NATIONAL PERCENTILE
1 2 5 10 20 30 40 50 60 70 80 90 95 98 99

STANINE
1 2 3 4 5 6 7 8 9

NCR = NUMBER OF ITEMS CORRECT
SS = SCALE SCORE
GE = GRADE EQUIVALENT
NCE = NORMAL CURVE EQUIVALENT
NP = NATIONAL PERCENTILE

INTERPRETATION OF SCORES

NORMS

THIS STUDENT'S TEST PERFORMANCE MAY BE COMPARED WITH THAT OF THE NATIONAL NORM GROUP BY REFERRING TO THE NATIONAL PERCENTILE COLUMN (NP) ABOVE. ACHIEVEMENT IN THE BASIC SKILLS IS BEST SUMMARIZED BY THE "TOTAL" SCORES. THE STUDENT'S TOTAL BATTERY SCORE IS ABOVE THE NATIONAL AVERAGE (THE 50TH PERCENTILE). IN READING, THE STUDENT'S ACHIEVEMENT WAS BETTER THAN APPROXIMATELY 51 PERCENT OF THE NATION'S 7TH GRADERS; IN LANGUAGE, BETTER THAN APPROXIMATELY 80 PERCENT; IN MATHEMATICS, BETTER THAN APPROXIMATELY 99 PERCENT.

(**) THIS STUDENT HAS NO NATIONAL PERCENTILE SCORE ON TESTS MARKED BY TWO ASTERISKS.

OBJECTIVES

CONTENT AREAS INCLUDED IN CTBS ARE INDICATED AS FOLLOWS: READING (R), SPELLING (SP), LANGUAGE (L), MATHEMATICS (M), REFERENCE SKILLS (RS), SCIENCE (SC), AND SOCIAL STUDIES (SS).

THE STUDENT IS STRONG IN SKILLS RELATED TO:
ADDING DECIMALS OR FRACTIONS (M), SUBTRACTING DECIMALS OR FRACTIONS (M), MULTIPLYING DECIMALS OR FRACTIONS (M), DIVIDING DECIMALS OR FRACTIONS (M), SOLVING PROBLEMS INVOLVING INTEGERS (M).

THE STUDENT MAY NEED REVIEW IN:
UNDERSTANDING HISTORICAL PERSONS, EVENTS, OR ERAS (SS), DIFFERENTIATING BETWEEN FORMS OF WRITING (R), UNDERSTANDING THE MEANING OF WORDS IN PHRASES (R), LOCATING INFORMATION IN THE LIBRARY (RS), IDENTIFYING DEFINITIONS OF MULTIMEANING WORDS (R).

QUARTER MONTH: 24

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Appendix E

Follow-up of Redesignated Title VII Students
Attachment Two-Grades

FALL 1989 [redacted] 8, 08 1

OUR GOAL IS TO HELP PARENTS DEVELOP GOOD CITIZENS IN THE AMERICAN TRADITION

TO THE PARENT

IF YOUR ADDRESS AS INDICATED BELOW IS INCORRECT, PLEASE CALL THE RELATED COUNSELING OFFICE OF YOUR SCHOOL AT:

CALLE MAYOR MID
SCHOOL YEAR 533-4548
FALL 1989
GPA: 3.71

EXPLANATION OF CODES

GRADES - REPORT	CITIZENSHIP
A - SUPERIOR	E - EXCELLENT
B - ABOVE AVERAGE	S - SATISFACTORY
C - AVERAGE	N - NEEDS IMPROVEMENT
D - BELOW AVERAGE	U - UNSATISFACTORY
F - FAILURE	# - ABS - NUMBER OF ABSENCES

PERIOD	COURSE NAME	QUARTER 0 GR	EFF	CIT	ABS	TEACHER
1	RD/LA 8	B	A	E		OLSON
3	PHYS SCIENCE 8	A	A	E		GOLDSMITH
4	ALGEBRA I B	A	A	E		MICEK
5	LUNCH					RILEY
6	INST MUSIC 7-8	A	A	E		BARNES
7	P. E. 7/8	B	A	E		EBEY
8	SOC STUDIES 8	B	B	E		MCKINNEY
9	INST MUSIC 8	A	A	E		BARNES
		20/48				89-90

MIDDLE SCHOOL
STUDENT REPORT CARD

TORRANCE UNIFIED SCHOOL DISTRICT, TORRANCE, CALIF.
DR. EDWARD A. RICHARDSON SUPERINTENDENT OF SCHOOLS

TO THE PARENT OF: 0009

[redacted]
REDONDO BEACH CA[redacted]

REV. 8/83

Appendix F

Modified Curriculum

HANDS-ON SCIENCE FOR 6TH GRADE

ACKNOWLEDGEMENT

This manual has been developed through the Title VII Project: Bridging the Gap: A Sheltered Approach to Language Acquisition and Academic Success to help the project's Chinese, Japanese, and Korean Limited English Proficient Students have access to the Science Core Curriculum through hands-on activities.

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Appendix G

Translated 6th Grade Science Lesson
"Chemical Changes"
Page One in English

CONCEPTS:
All Chemical reactions involve a change in energy.
Chemical reactions occur at different rates of speed.
Energy cannot be created nor destroyed; it can only be changed to another form.
(Law of Conservation of Energy)
Matter can be neither created nor destroyed; it can only be changed to another form.
(Law of Conservation of Matter)

OBJECTIVE(S):
To describe the difference between physical changes and chemical changes in matter.
To label the rate of given chemical reactions as slow or rapid e.g. tarnishing, burning, rusting, fading...
To demonstrate the Law of Conservation of Matter

VOCABULARY:
Chemical reaction, chemical bonds, chemical energy, nuclear energy, nuclear fission, nuclear fusion, radioactivity

TOPIC: CHEMICAL CHANGES (CHEMICAL REACTIONS)

TEXTBOOK REFERENCE: Silver-Burdette Science (6th) pp. 132-151

ACTIVITIES:

1. Cooperative Group:
Collect samples/examples of changes from the classroom, home and around school. Classify examples as slow, rapid change. Then report group findings to rest of class. (Ex. Alka Seltzer/water, vinegar/baking soda, chemical cold and heat packs, rusting etc....)

(Physical) Chemical Changes 6th/T3

Appendix G

Translated 6th Grade Science Lesson "Chemical Changes" Page Two in English

2. **What Is Rust?** (p. 7 of this manual)

3. Experiment with invisible writing with different chemicals like lemon juice, milk, other chemicals. Report to the entire class about group's results.

4. Cooperative Group: **How Can Chemical Changes Help You Write a Secret Message?** (p. 8 of this manual)

5. Demonstrate chemical cold pack (the kind you hit to activate). (It is made from amonium chloride crystals with a water packet. Breaking mixes the water and crystals to produce a cold reaction. Explain how energy is conserved.

6. Try to find a heat pack and glowing light stick to demonstrate as in activity #5.

7. Experiment with toast:
   a. Weigh slice of bread before toasting
   b. Hold pyrex plate (clear) over toaster as bread is toasting. What collects on the plate? Why?
   c. Weigh bread after toasting. Is there any change? Why?

8. Burn toast or sugar to produce chemical changes. (carbon, oxygen, hydrogen seen as carbon and water)

9. TUSD films/or videotapes:

   VT 0-0370 Chemical Reactions Tape 19 (Mr. Wizard)
   VT 0-0368 Chemistry in the Kitchen Tape 17 (Mr. Wizard)
   VT 0-0367 Change of State Tape 16 (Mr. Wizard)

10. AV KIT 530.4 Matter and Molecules
    AV KIT 531.6 The World of Energy

11. Cooperative Group: **Is the Dissolving of Solids a Physical or a Chemical Change?** (p. 9 of this manual)

(Physical) Chem Changes-Chemical Reactions 6th T3

Appendix G

Translated 6th Grade Science Lesson "Chemical Changes" Page One in Korean

보린스 통합 교육구
교육 업무부
중학교 과학

개념: 모든 화학반응은 에너지의 변화와 관련되어있으며 각기 다른 비율과 속도로 발생한다. 에너지는 만들어지거나 소멸될수 없으며 단지 다른 형태로 변화될수있다. (에너지 보존법) 물질은 만들어지거나 소멸될수없으며 다른 형태로 변화 될수있다 (물질 보존법)

목표: 물질의 물성과 화학성사이의 서로 다른점을 알기
퇴색하는것, 타는것, 녹스는것, 빛깔이 바래는것과 같이 반응이 느리게 혹은 빠르게일어날때의 화학반응을을 알기
물질 보존법 실연

어휘: 화학반응, 화학적 결속, 화학 에너지
핵에너지, 핵 분열, 핵 융합, 방사능

제목: 화학성 (화학반응)

고과서 색인: Silver-Burdette Science (6th) pp132-151

****

학습활동

1. 그룹활동:
고심, 집, 학교 주위에서 샘플/여가 될만한것을 모아보라. 느리고 빠른 변화 속도별로 분류하고 일아낸결과를 반학생들에게 발표해 보라(예: 밀가 생저/물, 식초/베이킹 소다, 화학냉동제 과 기업체, 녹슨것등등. . .)

Appendix G

Translated 6th Grade Science Lesson "Chemical Changes" Page Two in Japanese

2．さびとは何か。（この本の７ページ）

3．レモンジュース、ミルク、その他の薬品など、色々な化学製品をを使って、見えない文字を書いてみよう。各グループの実験結果をみんなに発表しよう。

4．グループ学習：見えない文字が書けるのは、どんな化学変化によるものか。（この本の８ページ）

5．化学的な冷湿布を使ってみる。（自分で活性化できるもの）（これは、塩化アンモニウムの結晶と冷凍剤でできている。水と結晶を混ぜると冷寒反応を生じる。エネルギーはどのように保存されているか説明しよう。）

6．温湿布やグローイングライトスティック（発光棒）で、５番と同じ実験をしてみよう。

7．トーストを使った実験：

　a．焼く前にパンの重さを計る。

　b．パンを焼いている間、トースターの上に耐熱ガラスの皿（透明なもの）をかざしておく。皿に何が付いたか。それはなぜか。

　c．焼いた後でパンの重さを計る。違いがあるか。それはなぜか。

8．化学変化を生じさせるため、パンまたは砂糖を焼く。（炭素、酸素、水素は炭素と水として見える。）

9．ＴＵＳＤの映画／またはビデオテープ：

　ＶＴ　０－０３７０　化学反応　テープ１９　（鍵法使い）

　ＶＴ　０－０３６８　台所の化学　テープ　１７　（鍵法使い）

　ＶＴ　０－０３６７　状態の変化　テープ　１６　（鍵法使い）

10．ＡＶ．ＫＩＴ　５３０．４　物質と分子

　ＡＶ　ＫＩＴ　５３１．６　エネルギーの世界

11．グループ学習：固体が溶けるのは、物理的変化か化学的変化か。（この本の９ページ）

J (Physical) Chem Changes-Chemical Reactions 6th T3